

REMARKS

Applicants have amended claim 27, and have added new claims 40-47.

Applicants note that the Examiner has initialed and returned sheet 2 of 2 of the Information Disclosure Statement filed with the U.S. Patent and Trademark Office on October 31, 2001. Applicants have enclosed a copy of sheet 1 of 2 of the October 31, 2001 Information Disclosure Statement with this Reply, and request that the Examiner confirm receipt of the sheet.

Claims 22-29 and 40-47, of which claims 22, 27, and 43 are independent in form, are presented for examination. Applicants address the Examiner's rejections from the January 21, 2004 Office Action, and remarks from the July 19, 2004 Advisory Action, below.

Claim Rejections – 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a)

The Examiner has rejected claims 27-29 as either anticipated by U.S. Patent No. 6,334,871 (Dor) under 35 U.S.C. § 102(b), or obvious over Dor under 35 U.S.C. § 103(a).

As amended, claims 27-29 recite a stent comprising a radiopaque rivet including a shaft that has a length of from 0.004 inch to 0.007 inch. Dor does not describe or suggest the stent recited in claims 27-29. Dor describes stents that are marked by inserting rivets with a higher radiopacity than the stents through the ends or edges of the stents. (See, e.g., Dor, col. 2, lines 15-18.) Dor does not describe or suggest that the rivets would have a shaft with a length of from 0.004 inch to 0.007 inch, or provide any dimensions (such as length) for the rivets. Thus, Applicants request that the rejection of claims 27-29 be withdrawn.

Claim Rejections – 35 U.S.C. § 103(a)

The Examiner has rejected claims 22-26 as unpatentable over Dor in view of U.S. Patent No. 3,869,956 (Breer). But there is no motivation to combine Dor and Breer. Dor describes stents that are marked by radiopaque rivets, while Breer has nothing to do with stents or any other medical devices. Instead, Breer describes fasteners that are used to join "aluminum components of high performance aircraft structures." (See, e.g., Dor, col. 2, lines 15-18, and

Breer, col. 1, lines 4-7.) A person of ordinary skill in the art would not have combined an aircraft component reference with a stent reference to arrive at the stent of claims 22-26.

Additionally, assuming but not conceding that a person of ordinary skill in the art would have combined an aircraft component reference with a stent reference, that person would not have combined Dor with Breer. Dor describes a stent, within which are inserted radiopaque rivets. (See, e.g., Dor, col. 2, lines 15-20.) Dor explains that the rivets are well-secured to the stent:

[T]he rivets are preferably compressed into the stent material. Optionally, in addition to or in place of compression, the surface between the rivets and the stent can be heated to weld or fuse the rivets into position. Preferably such heating would be focused heating, for example, with a laser, where only the rivet and stent material would be present. (Id., col. 4, lines 3-9.)

Dor also provides examples of different types of rivets that are compressed into stents, and notes that after the rivets have been compressed into the stents, they cannot leave or displace from the stent. (See, e.g., id., col. 3, lines 26-36.) Breer describes a prior art washer that is positioned on one end of a rivet. (See, e.g., Breer, col. 2, lines 51-55.) The Examiner has asserted that it would have been obvious to a person of ordinary skill in the art to use such a washer with one of Dor's rivets. (See January 21, 2004 Office Action, page 3.) But a person of ordinary skill in the art, upon reading Dor, would not have been motivated to modify Dor's rivets by further securing them with a washer, at least because Dor has clearly indicated that his rivets are already well-secured without the help of any washers.

A person of ordinary skill in the art also would not have been motivated to combine Dor with Breer because Dor describes using a relatively soft rivet in a relatively hard material, while Breer describes using a relatively hard rivet in a relatively soft material. Dor's rivets are made of, for example, gold, gold alloy, tantalum, tantalum alloy, platinum, platinum alloy, or titanium. (See, e.g., Dor, col. 2, lines 19-20, and col. 5, lines 25-28.) Dor suggests using harder materials for the stent body than for the rivets. For example, Dor notes that, "The radiopaque markers described below are designed for stents produced from a material that is not sufficiently radiopaque to be seen through the use of fluoroscopy, e.g., a material such as Stainless Steel 316L, nitinol, or a cobalt chromium alloy." (Id., col. 2, lines 5-9.) Furthermore, Dor teaches

away from making a stent body out of a relatively soft material. For example, Dor states in his Background section that, “a disadvantage of [a prior art stent made from a radiopaque material such as tantalum] is that tantalum is a relatively soft material and it is, therefore, necessary to use more of this metal to achieve sufficient support from the stent.” (*Id.*, col. 1, lines 51-57.) Thus, upon reading Dor, a person of ordinary skill in the art would have been motivated to use a stent body made of a relatively hard material and rivets made of a relatively soft material.

Breer, on the other hand, addresses a problem that can occur from using relatively hard rivets in a relatively soft material. Specifically, Breer focuses on using special high strength fasteners to hold aluminum components together. (Breer, col. 1, lines 4-13.) Breer states that, “the rivet material is much harder than the aluminum structure which it joins.” (*Id.*, col. 2, lines 19-21.) As a result, if the rivet is upset, it can cause distortion in the aluminum. (See, e.g., *id.*, col. 2, lines 21-27.) Breer first notes that a washer has been used in the past to help distribute compressive forces and thereby reduce distortion caused by the rivet. (See, e.g., *id.*, col. 2, lines 51-55.) Breer then describes his rivet system, which includes a right cylindrical pin 20 with a collar 21. (See *id.*, col. 2, lines 65-67.) Breer explains that his rivet system has the benefit of providing “control of rivet expansion-and-upset”, which can thereby “enable[] the use of very high strength steel and nickel base alloys for the rivet material in aluminum structures.” (*Id.*, col. 4, lines 1-3 and 29-32, emphasis added.)

A person of ordinary skill in the art would not have been inclined to use the washer described in Breer in the stent described in Dor, at least because the person of ordinary skill in the art would not have been motivated to combine Breer with Dor. Accordingly, Applicants request that the rejection of claims 22-26 be withdrawn.

Advisory Action

In an Advisory Action mailed on July 19, 2004, the Examiner stated that rivet-washer assemblies are well-known, and cited U.S. Patent No. 3,641,296 (“Schwarz”) as an example of another reference that describes a rivet-washer assembly. However, as explained above, a person of ordinary skill in the art would not have been motivated to modify Dor’s rivets by further

securing them with washers, at least because Dor's rivets already are well-secured by, for example, compression or welding. Thus, a person of ordinary skill in the art would not have been motivated to combine Dor with Schwarz to produce the stents of claims 22-26.

New Claims

Applicants have added new claims 40-47. New claims 40-42 depend from claim 22, and are patentable for at least the reasons described above. New claims 43-47 recite a stent comprising a rivet having a first end with a diameter of from 0.0038 inch to 0.0058 inch. Dor, Breer, and Schwarz all fail to describe or suggest the rivet recited in new claims 43-47. Thus, Applicants believe that claims 40-47 are in condition for allowance.

Applicants believe that claims 22-29 and 40-47 are in condition for allowance, which action is requested. Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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Tu N. Nguyen
Tu N. Nguyen
Reg. No. 42,934

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906